

Hobbies

WEEKLY

CONTENTS

	Page
Camping Trailer - - -	177
The Editor's Notebook	178
Toy Sand Yacht - - -	179
Preserving Dead Birds	180
A Garden Basket - - -	181
Making Frame Aerials	182
A Tennis Racket Bracket - - -	183
Walking Holidays - - -	184
Notes of Interest - - -	185
The Camera on Tour	187
A Standard Lamp - - -	188
Exhibition Stands - - -	189

June 21st, 1950

Price Fourpence

Vol. 110 No. 2851

A HOME-MADE CYCLE CAMPING TRAILER

CYCLING readers, who love a camping holiday, would find the trailer illustrated of great use in helping to convey their equipment without trouble. It is of fairly capacious dimensions, large enough to hold most of the things likely to be needed, and space on the top can be utilised to carry a light tent and, perhaps, a sleeping bag as well. Construction is light but strong, and there should be little strain on the cyclist pulling it.

The trailer is built as a framework of strong wood, covered with plywood or a good substitute. A side view of the framework is given in Fig. 1, and a rear view in Fig. 2.

Sides

Make the sides first, with 1in. by 4in. wood for the top rail, 1in. by 2ins. for the ends and 1in. square for the bottom rail. These can be joined together with a simple halved joint, well glued and screwed together. It will be seen that the top edges for 9ins. are left straight, then tapered downwards for the rest.

When the glue is hard, go over the outer surfaces with a smoothing plane to make all level for the plywood covering. The crossbars, joining the sides together are all of 1in. by 2in. stuff. Their position is indicated in Fig. 1 by shaded lines.

These crossbars should be carefully sawn across at their

ends to be square with their face sides, then they are glued and screwed across. Take care to get the whole framework square all over. At the centre of the bottom, a fifth crossbar is secured across, to this the axle of the wheels will be afterwards screwed.

The Floor

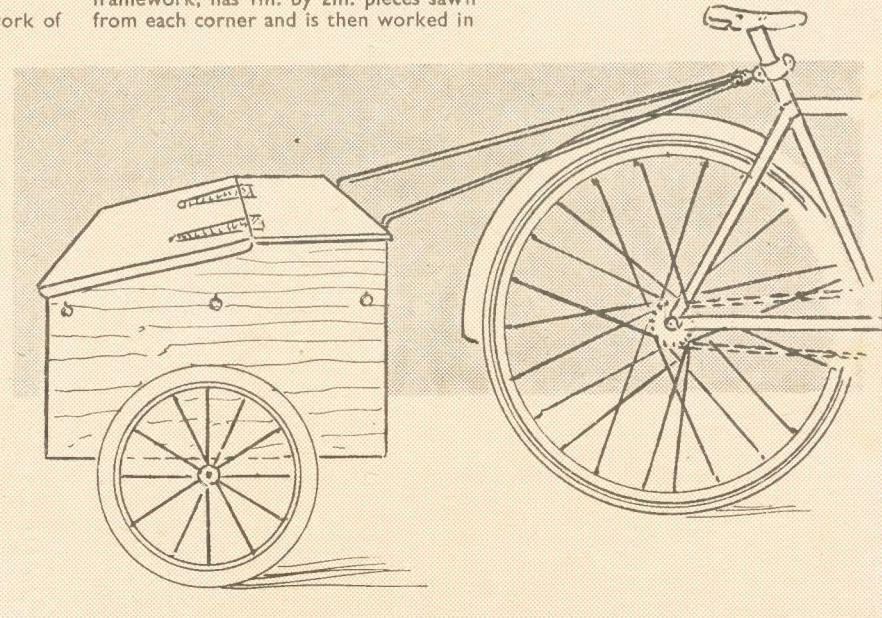
The bottom of the trailer can well be of plywood or good composition board. It is cut to the full dimensions of the framework, has 1in. by 2in. pieces sawn from each corner and is then worked in

and nailed to the bottom rails and crossbars.

Covering

The sides and ends can now be covered with the plywood. Cover the ends first, and trim their side edges level. The sides can then be cut to cover these edges as well as the framework, and make a neat job of the whole.

Small flat headed nails can be used for fixing the plywood, and the ground



work should be covered with thin hot glue to assist a close adhesion everywhere. Let the glue get hard then, with smoothing plane, trim the top and end edges of the plywood level with the framework all round.

MATERIALS NEEDED

For framework—lin. by 4ins., 4ft. lin. by 2ins., 11ft. lin. square, 4ft.
Plywood panels (2)—1ft. 3ins. by 1ft. by 2ft. 0½in. (1) 1ft. 3ins. by 1ft. 3ins. (1) 1ft. 3ins. by 1ft. (1) 1ft. 3ins. by 2ft.
Matchboarding for top and lid—½in. by 4½ins., 8ft.

Where some of the thin aluminium sheeting is available, the question of using this in place of plywood might be considered. It is both light and strong, and is easily fixed, either with nails or small round-headed screws. It would be better to cut and fix the sides first, allowing ½in. extra at each end to bend over the ends of the trailer, where it should be well flattened down. The end pieces should be cut exact size, and be well screwed and flattened down over the overlapping parts of the sides.

The top and lid of the trailer can be cut from ½in. wood, preferably of the tongued and grooved kind. Matchboarding would suit quite well. The straight portion of the top is covered in first, the wood being long enough to overhang the side by a full ½in., but be cut level with the back. Screw the wood down to the framework.

The remainder of the top covering forms the lid. Join the boards together with side strips of ½in. by 1in. wood, as seen at Fig. 3, and glue and nail the whole securely. Fix the lid to open up with a pair of iron T hinges, as shown, and to the front of the lid fix a hasp to accommodate a padlock fastener.

Painting

The whole job should now receive at least two coats of good quality outdoor paint, to render the trailer waterproof. Additional help here will be to provide a tarpaulin cover for keeping the contents of the trailer dry in very wet weather.

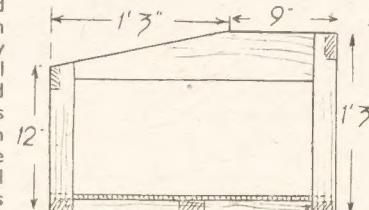


Fig. 1—Side view of framework

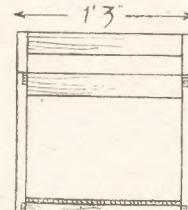


Fig. 2—Rear view of frame

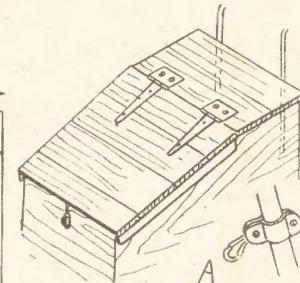


Fig. 3—Details of top and fixing

A helpful addition, also, is a number of brass rings, say, three at each side and two at each end, for helping to securely rope a tent or other paraphernalia, on top of the trailer, when touring.

For the wheels, a pair of 16in. ones from an old pram or similar vehicle will suit as well as anything. You need not be tied down to that size, doubtless other sizes within reason, could be

loop, and be bent and screwed to the fore-end of the trailer, as in the general view of the completed article. A simple form of attachment, to be fitted to the seat pillar of the bicycle, is shown at (A) in Fig. 3. To this is secured a large size dog-hook, which can engage the loop on the towing bar and form a safe connection. Do make sure it is quite safe with no chance of slipping.

From the Editor's Notebook—

ALITTLE time ago I had a picture of a reader who put miniature ships in aspirin bottles, and imagined it was unique! Now I hear from Mr. C. H. Griffiths of Newell Hill, Tenby, that the hobby is nothing new because he has been putting ships in bottles for nearly two years. He has completed over 100 and has (or had when he wrote to me) another 68 to do. They have been sent all over the world, some as far as Texas, in the U.S.A. Any more people doing this sort of thing?

* * *

SINCE my notes on matchbox collecting seem to have created much interest I am having an article written on the subject, which is apparently widespread and seems to be competing with stamp collecting. Recently, for instance, a reader found a matchbox which he thought must be quite old. From his description, I found it could have been 23 to 40 years ago since it was manufactured because that was the time when that particular type was about. But, please, do not all send me your matchboxes and ask me to identify them. Wait for the coming article which will tell you all about it.

ADENTAL mechanic, Mr. F. Hartley, of Eccleshill, Bradford, has spent 18 years perfecting a single model. It should be good—and is. From an early age Mr. Hartley was fascinated by trams and collected, in course of time 2,000 pictures of them from every part of Britain. (Our young readers should remember that trams were once the mode of transport in every town and city!). Then he commenced to build a model of one of the Bradford trams—and now it is a show piece, complete in every detail. It will be of even more interest later, for Bradford is going to dispense with its trams this year—so the model will become a worth-while museum piece.

* * *

I WAS afraid when I printed in the issue of May 10th, a picture of a magnificent Pagoda in fretwork, that readers would promptly write in for details of the design. How right I was! Unfortunately, on this occasion I could not help them. The design was published about 40 years ago, when paper and wood were obtainable in larger and cheaper quantities than they are now. Supplement designs measuring 30ins. by

40ins. could provide patterns for something really worth while. But not now. Progress (!) made has brought us backwards to quite small sheets and comparatively little wood—a situation we lament as much as anyone. Proof of the still big demand for really large and intricate pieces of fretwork is always shown by the number of letters I receive whenever a picture of one of these old time masterpieces is printed. Perhaps one day we shall be able to offer supplement sheets and material large enough to please everyone. We hope so sincerely, but see no prospect of it at present.

* * *

HERE is an early note about a future Hobbies Exhibition to be held in the Birmingham area. It is being arranged by the local Rotary Club members who are organising one to take place in October next at Stourbridge Town Hall. Readers in the district should keep their eyes open for later announcements, and be ready with something to support it.

The Editor

Fun for the garden or beach can be provided by A TOY SAND YACHT

THE little yacht, here illustrated in Fig. 1, is a toy which will, we feel sure, please the youngster. He can 'sail' it anywhere except on the water, and that is why such fun can be had with it in the garden and on the lawn. On the sands, too, it can be called a sand yacht to be acted upon by the wind.

The yacht can be guided to sail in circles or to keep a straight course by the simple use of a steering cord connected to the fore axle. This will be described later in this article.

When not in use the toy can be dismantled just as easy as it is erected, and all the parts can be home-made with the fretsaw and a few ordinary tools.

Before commencing work study the side view of the yacht, Fig. 2, which provide all necessary dimensions for the sails and spars, and give a good idea as to position of most parts.

The size of the toy overall is 18ins. long and 18ins. high, while the width to the outside of each pair of wheels is about 9ins.

The Deck

For the deck we shall require a piece of $\frac{1}{2}$ in. wood, one of Hobbies MD8 panels is just the thing, and Fig. 3 shows how to mark in a number of oblongs 1in. by $\frac{1}{2}$ in. for enlarging to full size from the plan given. Follow the half plan, and run the outer thick line through the lines of each oblong. Then trace this off on to thin transparent paper and turn it over and transfer the curved outline direct to the wood and to a common centre line previously drawn on the wood.

Cut round the finished outline with the fretsaw and afterwards clean up the edges with glasspaper. Next, bore holes in the deck, one 2ins. from the point of the bow $\frac{1}{2}$ in. diameter, another hole 5 $\frac{1}{2}$ ins. also from the bow but $\frac{1}{2}$ in. diameter, and a third hole, $\frac{1}{2}$ in. diameter 4ins. in from the stern.

Mast Holder

As a substantial base for the mast, cut out a piece of $\frac{1}{2}$ in. wood to the shape shown at (A) on plan Fig. 4. This should measure 2 $\frac{1}{2}$ ins. long by 1in. wide and a $\frac{1}{2}$ in. diameter hole must be made in it for the mast which, as will be noted, runs down through the hole made in the deck. Nail the piece to the deck with two 1in. long wire nails.

Now take in hand the making of the steering arrangement, details of which are shown in Fig. 5. First cut a piece of $\frac{1}{2}$ in. round rod (A), 1 $\frac{1}{2}$ ins. long, and on the lower end glue the grooved wheel (B). This may be 1in. diameter and the groove round the edge can be cut in with a rat-tail file.

Push the round rod through the hole in the deck from below and lay over it the thin disc (C) consisting of felt or rubber. Then again, above this, glue on the plain $\frac{1}{2}$ in. disc (D) to form a kind of knob for turning. Thus, when a fine piece of cord is attached to the front cross axle and brought back and carried round in a double loop as seen in Fig. 5, round the grooved wheel, the axle can be held firmly in place, the washer forming sufficient grip to hold it until the knob is again moved.

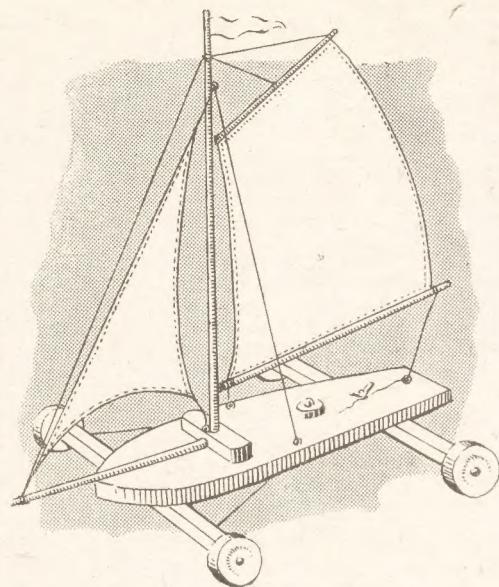


Fig. 1.—The completed article in use

The axles are identical in length, and cut from $\frac{1}{2}$ in. thick wood $\frac{1}{2}$ in. wide. The front axle will be pivoted by running a round-head screw up loosely through the deck and into the axle. The back axle will be fixed to the stern of the yacht by means of wire nails and glue. Insert two brass or copper screw-eyes into the side of the front axle, as shown in Fig. 4, for the attachment of the steering cord.

Mast and Spars

The mast, spars and bowsprit are all made from $\frac{1}{2}$ in. round rod and shaped up, as shown in Fig. 2. The length of spars are as shown in Fig. 2. That of the bowsprit is 7 $\frac{1}{2}$ ins., which is pinned to the deck and let into the front of the mast block, as seen by the dotted lines in Fig. 2.

The sails may be cut to the shapes shown, using fine white linen, suitable hems being made in the mainsail to accommodate the two spars. The jib sail could be hemmed with the cord

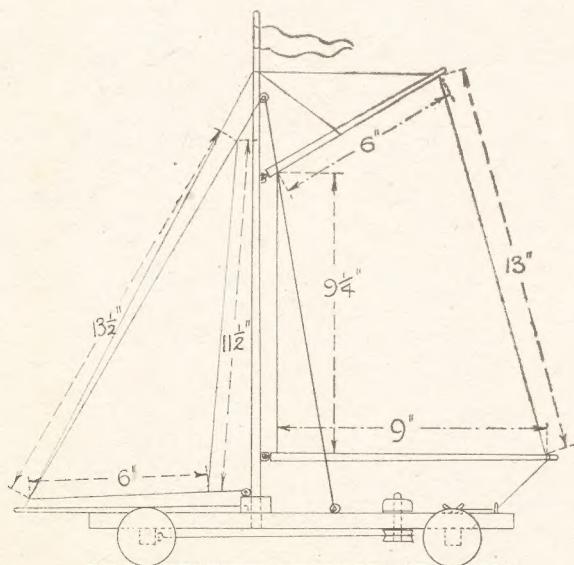


Fig. 2—Side elevation with details of sails

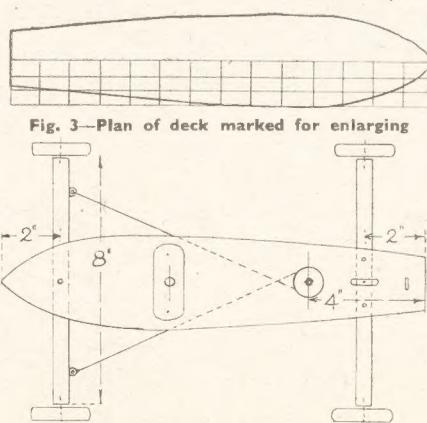


Fig. 3—Plan of deck marked for enlarging

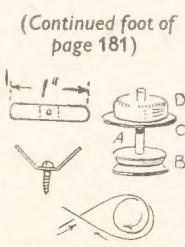


Fig. 4—Plan of deck, wheels, axles, etc.

(Continued foot of page 181)
Fig. 5—Details of small fittings

An expert tells how to go to work to PRESERVE DEAD BIRDS

A READER who wrote recently for information on this matter touched upon a subject with a much wider appeal. For the art of mounting birds, stuffing birds, of 'taxidermy' as it is named, makes an interesting hobby for the sportsman, and it is also interesting to preserve your pet parrot, canary or budgerigar in this way. The hobby requires skill, patience and a fairly simple routine.

First the tools. You need a sharp penknife, some strong galvanised wire and pliers for cutting it, a blunt knife or 'scraper' and some alum or taxidermist's arsenical soap, for preserving the skin. You may, of course, buy a box of taxidermist's tools from a dealer in London or Manchester if you intend to make a regular hobby of preserving birds.

How to Skin

Do not leave the dead bird to rot before you start to mount it, or it will not be suitable. First skin it by making an incision on the breast or stomach, carefully parting the feathers and making a slit of a few inches, as this has to be sewn neatly afterwards. By gently prising the skin away from the underlining flesh with the blunt knife, and avoiding puncturing the skin with the knife it will be possible to make a large space under this cut.



Through this remove the entrails and internal organs carefully without breaking blood vessels or anything else to soil the plumage. Slowly turn the legs, wings and neck back through the hole, to remove their flesh, and then scrape the skin clean of fat or flesh which rots. Leave the skull in the head, remove and wash out the brain and eye sockets. Now treat the inside of the skin with a preservative like arsenical soap; or pepper, salt, and alum, glycerine, etc., then dry it in a warm place (e.g., before the fire). The brain can be taken out through the mouth. The pepper, salt and alum will dry the moisture off the skin, and can then be removed.

Packing the Body

Now start packing the bird's body with a soft substance like cotton-wool or tow, making sure that it is sterilized of all pests. Cotton-wool will not attract clothes moths like ordinary wool.

In order to arrange the bird as you wish it to remain for final mounting, the wire is now used for support. Pass a strong wire through the body so that one end protrudes from the anus just under the tail and the other end at the nostrils. Cut these off so that the ends are not visible.

Wire Support

To this fix wires which pass inside the legs and emerge with 2 or 3 ins. through the sole of the foot. These extensions are used to fix it to a perch. Finally fix across the body the wire to support the wings, protruding 1 in. or 2 ins. into the wing or the ends of the cut bones, according to whether or not the wing is to be raised or folded. The thickness of the wire depends upon the kind of bird, of course.

Having made the bird as natural as possible for position of wing and tail, flatness of body, etc., carefully sew up the slit made in the belly or chest, so that the feathers, folded over, do not reveal the cut. Then with a little cornflower, warm bran or something similar worked carefully into the plumage to restore its cleanliness, the bird is trussed up in bandages of paper or rag, or criss-crossed with thread, so the plumage feathers lie in position and the body is kept in its natural shape. The model is then set aside in a cool dry place for about a month to fix itself, when the covering may be removed and the specimen fitted in to its glass case.

Touching Up

Sometimes the soft parts of a bird like its beak, legs and eyelids may need touching up with their natural colours which fade, or a little white shellac is needed on the beak to keep its gloss. The artificial eyes may be purchased; or, providing they are the correct colour, small hatpin heads sometimes serve for eyes for small birds. Place some moist plaster of paris in the eye-socket before inserting the glass eye.

As arsenic is dangerous to handle, you may like to make a non-poisonous skin preserving paste as follows: 1½ lb. of whiting or chalk and ½ lb. of white curd soap boiled up in a pint of water until the soap is dissolved, and then stir in ½ oz. of finely powdered chloride of lime, and add ½ oz. of tincture of musk as it cools. Do not inhale these fumes, and apply the paste as a thick cream. A non-poisonous preservative powder can be made from 1 oz. pure tannin, 1 oz. red pepper, 1 oz. camphor and 8 ozs. burnt alum.

White Madras wax is good for the bills and legs, or beeswax with a little resin. Dirty, bloody feathers after mounting may be sponged with salty water. A mixture of benzoline and plaster of paris will remove grease.

Another Method

If you are mounting the bird sideways



A Little Auk mounted by the author in the way described

on, it may be better to start by making the incision into its body under the wing on the 'wrong' side of the breast. The skin on the back is thin and easily damaged.

After making the initial cut, insert the knife and start to separate the skin from the flesh, working down to the leg and loosening the skin of the back, inserting a layer of wadding to keep the feathers off it. Gradually work the skin back over the neck, legs and wings, cutting the bones away with pliers. Scrape round the tail end, do not puncture the internal organs as they will spoil the feathers, and trim all the flesh from the severed parts.

Do not forget to remove the tongue and the windpipe. Chopped tow thinly mixed with soft clay (2 ozs. Japan wax and 1 oz. plaster of paris) is also useful for padding to make the shape of the head. Fill the hollow base of the wings over the bones, also the thighs. Fill the neck with tow and clay, likewise wings and tail. Insert the eyes after the skin dries or the orbits will contract and look unnatural. If the mouth is shown open when finished, do not forget to wax the inside. A good book on taxidermy (in case you wish to make a long hobby of it) is written by the late Montagu Brown.

(165)

Dart Tip

HERE is a tip for a darts enthusiast who finds that feather flights have become split. Obtain a candle and light it; put the dart in vice with the injured feather horizontal. Hold the candle over the flight and let the grease drip on. Then smooth it out with the finger and thumb until it hardens.

You will find it convenient and handy to make A GARDEN BASKET

HERE are quite a number of items the handyman can make for the garden, but one of the most useful is a garden basket. These containers are very convenient, for they will do anything from holding small tools or setting-out plants to collecting produce.

Two types of basket are shown here and both make quite satisfying jobs, as they are solid and look well when completed. The dimensions given in each case are optional as larger or smaller baskets could be made according to personal choice. Generally speaking the bigger the garden, the bigger the basket that would be useful—especially as a bringer-in of crops later in the season.

The Parts Required

To take the basket shown in Fig. 1 first. Parts required are the sides, base and handle uprights with crossbar. The sides are from two pieces of $\frac{1}{2}$ in. material, 1ft. 4ins. by 9ins. curved on the underside as indicated in the squared diagram. Care must be taken to get both

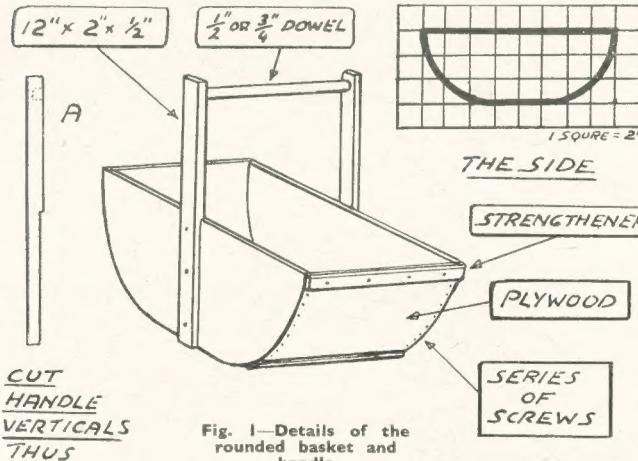


Fig. 1—Details of the rounded basket and handle

of the sides the same shape exactly; this is important or the base will not fit well.

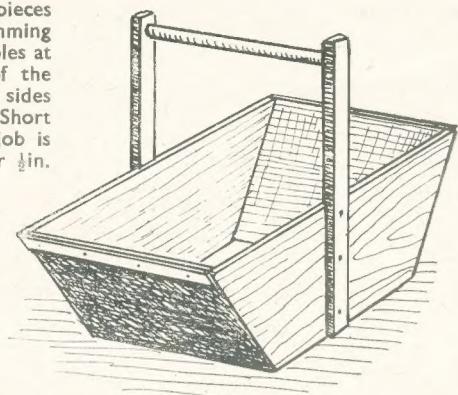
Now procure a strip of thin plywood, 9ins. wide and of sufficient length to go round the curved underside of the parts

just made. Or several smaller pieces will do, 9ins. wide and together summing up to the desired length. Drill holes at 1in. intervals along the edges of the piece (or pieces) and fit to the sides with a small screw at each hole. Short nails can be used, but the best job is made by employing small-diameter $\frac{1}{8}$ in. screws.

The curving of the wood must be done with some care. Work round hole by hole, following the bend of the sides. This can be done with greater ease using screws, which can be taken gradually up to their maximum tightness.

Once in position add the cross-strengtheners. There are four of these and they are 9ins. by 1in. by $\frac{1}{2}$ in. Two go across from side to side at the top lip and two are fitted down near the lower part of the curve and so located that they help the basket to stand firmly when on a level surface. It helps neatness of finish if the two lower strengtheners are triangular in cross section.

To complete things we must now put on the handle. This consists of the two uprights (A) which are 1ft. long and about 2ins. by $\frac{1}{2}$ in. in section. It makes the job firmer if the part of the uprights



length of dowel (about $\frac{1}{2}$ in. diameter) which forms the grip.

An Alternative Type

If well put together the dowel will hold without any further securing. If there be any doubt, however, run a screw through the uprights into the ends.

Should you like a quick-made basket, without the trouble of curving the underside, then the same general design can be used. The sides in this case are cut to the simple trapezium as shown in Fig. 2. Here three pieces of material for the base and sloping ends will be required. The base will be 12ins. by 9ins. and can be a $\frac{1}{2}$ in. thick rectangle of any ordinary wood—not three-ply.

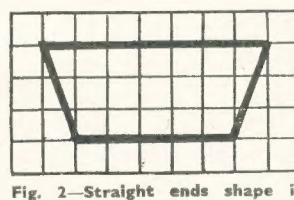


Fig. 2—Straight ends shape in 2in. squares

which lie against the side is taken out for a little distance as shown. These vertical pieces are held by a thin screw run through into the side wood, but before finally fitting bore out a circular hole near the top of each to take the

the first basket.

While garden baskets look nice in plain untouched wood, they last all the longer if given a coat or two of one of the several damp-resisting preparations there are about.

Sand Yacht—(Continued from page 179)

inside the fold or just tied to the three corners. The mainsail at the stern is held down by a cord attached to the spar and run through eyes in the deck. From here it is fastened by being wound on a cleat or bollard, formed up from a small length of brass strip holed in the middle and bent up and screwed to the deck. The detail of the cleat is given in Fig. 5.

The four 2in. diameter wheels could be cut from $\frac{1}{8}$ in. or $\frac{1}{4}$ in. deal, or they may be bought ready turned and nicely finished from Hobbies Ltd. Brass screws and thin washers are used for the attachment of the wheels. The washers must go between the ends of the axles and the wheels, and a drip or two of oil may be added to make for free running.

A little pennant or flag may be made

from stout paper folded double, cut to shape, bent round the mast and glued on. The rigging is of fine twine and attached by small brass or copper screw-eyes.

As a finish to the wood, the deck surface should be varnished after being lined up in pencil to represent the deck battening. The edges of the deck should be painted or enamelled and the mast and spars varnished or left untouched.

Conversion to portable radio receivers necessitates MAKING FRAME AERIALS

PORTABLE receivers are quite popular and it is clear that many constructors would welcome information on the winding of frame-aerials. Such aerials make the usual external aerial or earth unnecessary so that the receiver may be carried about and used without difficulty wherever desired.

Frame aerials of many different sizes can be made, either for use with an existing non-portable receiver, or as a basis around which a new set will be built.

How a Frame Aerial Works

A proper frame aerial does not merely consist of a length of aerial wire wound round inside some suitable containing case, and such an arrangement would be inefficient. Instead, it consists of a winding which replaces the usual tuning coil and signals are induced in it by

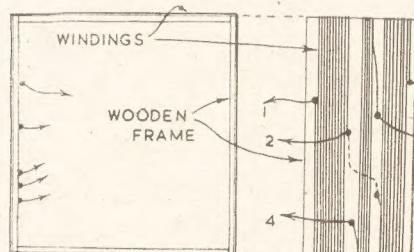


Fig. 1—A dual-wave frame aerial

passing wireless waves. These signals are fed to a detector, then amplified in the usual way.

Because of the way in which such an aerial operates signal pick-up is almost zero from any station in line with the axis of the frame aerial. This does not cause difficulties, however, as it is merely necessary to turn the receiver a little one way or the other to assure some required station is not being lost.

The signal pick-up from such an aerial is naturally less than that from a large external aerial. As a guide, it will usually be found that one valve will give good earphone reception. Two valves in an efficient circuit will give sufficient volume for average speaker listening with the more powerful stations, while three or four may be used for increased volume and range.

Dimensions of Aerial

A frame aerial wound on a large former, with fairly thick wire and a small space between turns will provide the best pick-up of all. However, space is often an important consideration, and quite small aerials will give satisfactory results.

Most small one, two or three valve sets with dry batteries can be made in a cabinet with a perimeter of about 3ft. (e.g., with sides each about 9ins. long).

Very compact receivers can be smaller, while bigger receivers will require larger cabinets, and any convenient dimensions will prove satisfactory.

There is no need for the frame aerial to be square, or for dimensions in any particular direction to be of a certain figure. Usually, therefore, the size and shape of the frame aerial will depend upon the receiver itself. But even with midget sets frames smaller than about 4ins. square should be avoided as the signal pick-up is reduced.

Making the Frame

It is possible to wind the aerial on the outside of the cabinet itself but for the sake of appearances some internal arrangement is usually employed. The simplest arrangement which will enable a good aerial to be wound is to cut four pieces of plywood as shown in Fig. 1.

These pieces are of such dimensions that the frame thus formed will slip

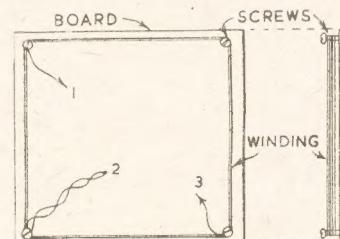


Fig. 2—Simplified form of construction

inside the cabinet with $\frac{1}{2}$ in. or so free space all round. The aerial is wound on this frame, which is then slipped inside the cabinet. The ends of the various windings may be brought through small holes and plugged to hold them secure. Connecting up to the various parts inside will then prove quite straightforward.

Calculating Turns

Referring to Fig. 1, the medium wave winding is between points 1 and 2, and approximately 75ft. of wire should be used. By measuring the perimeter of the frame the number of turns can easily be found. For example, a frame 1ft. by 1ft. would require 18 turns. A frame 8ins. by 10ins. would need 25 turns, and a frame 1ft. 6ins. by 2ft. only 11 turns.

The exact number of turns is not critical, but if it is found that high wavelength stations cannot be reached,

then a turn or two will require to be added, while if low wavelength stations cannot be tuned, a turn or so should be removed. With very small frames the increased inductance makes less wire necessary and under about 8ins. by 8ins. 60ft. of wire will be sufficient.

If there is sufficient space use fairly thick wire—about 22 S.W.G. enamelled or cotton-covered and space the turns about $\frac{1}{16}$ in. from each other. If space is limited thinner wire can be used and turns may be side by side, but wire thinner than about 32 S.W.G. should not be used here.

Reaction Winding

Leave a space of about $\frac{1}{4}$ in. and wind on the reaction section, which consists of between a third and half the number of turns on the M.W. section already mentioned. If all turns are in the same direction, as in Fig. 1, four will go to reaction condenser and five to detector anode.

With midget sets using small voltages

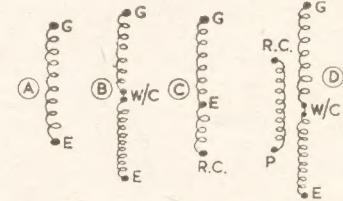


Fig. 3—Frame aerial circuits

reaction may be weak. If so, add a turn or two to the reaction winding or move the turns nearer the M.W. winding. Usually, however, satisfactory results will be obtained at once. Any insulated wire of about 34 to 26 S.W.G. can be used and turns are close side by side.

Long Wave Section

If the receiver is for M.W. only this will not be necessary; point 2 will, therefore, go to the 'Earth' (L.T. negative) line of the receiver. Where L.W. reception is also desired this point is taken to a wavechange switch. Also connect the beginning of the L.W. winding, which ends up at point 3.

This section consists of approximately 200ft. of thin (about 32 S.W.G.) wire, turns close wound, for frames about 4ft. and over in perimeter. For smaller frames, about 160ft. of wire will be sufficient. The winding is close to the reaction section already described.

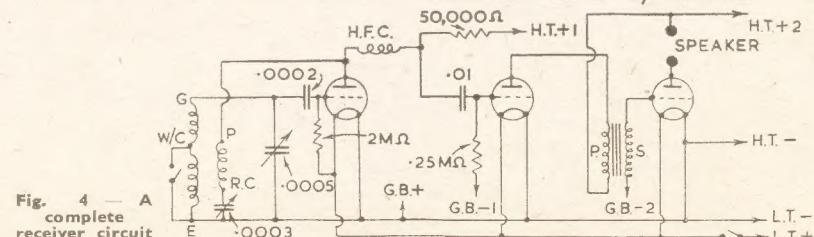


Fig. 4—A complete receiver circuit

In Fig. 1, point 1 goes to the fixed plates of the tuning condenser (e.g., detector grid condenser).

A Flat Aerial

A simplified form of construction can be attained by driving four screws into a flat board (possibly the back of the receiver cabinet) and winding the aerial on these (see Fig. 2). If enamel-covered wire is used tape should be bound round the screws before winding.

This form of construction does not give quite so much signal pick-up as that already described.

If it is desired to use medium waves only, and the reaction condenser is connected between detector anode and frame, instead of between frame and L.T. negative, then only three leads will be necessary. This is shown in Fig. 1. Point 1 goes to detector grid condenser, point 2 (the tapping on the complete winding) to L.T. negative, and point 3 to reaction condenser. This is also shown at (C) in Fig. 3.

Because the turns are close together

this type of aerial will require rather less wire than that for the previous type, about 50ft. usually being ample.

Types of Winding

Different arrangements may be employed, and Fig. 3 should make these clear. Type D is that for Long and Medium Waves, with separate reaction, first described in detail and shown in Fig. 1.

Type A consists of a single winding and this can be used in superhet receivers with a high frequency stage as no reaction winding is then required. Type B is for the same type of circuit but has long waves in addition, and this would be similar to the aerial shown in Fig. 1 with reaction omitted.

Type C is that shown in Fig. 2, where the reaction section is a continuation of the main winding. This type of aerial can be wound on a wooden frame of the type shown in Fig. 1 and is very convenient and efficient, but suitable for medium waves only.

In Fig. 3, 'G' denotes detector grid

condenser lead and 'E' earth line or L.T. negative. The connection to the wave-change switch is denoted by 'W/C' and 'R.C.' and 'P' show reaction condenser and detector plate (or anode) connections respectively.

Receiver Circuits

As mentioned, any circuit may be used in conjunction with a frame aerial, but as a guide a complete 3 valve circuit is shown in Fig. 4. This is quite straightforward and will give good speaker reproduction, especially if a 120 volt H.T. battery is provided and the frame winding is as efficient as possible, as described.

There is no reason why transformer coupling should not be used between the first two valves, if preferred, and a pentode output valve could also be used.

With all frame aerial receivers (excluding superhets) the reaction control should be used to build up volume. Careful tuning is also necessary, as a frame aerial is much more selective than a tuning coil.

Prevent likelihood of damage by making this twin TENNIS RACKET BRACKET

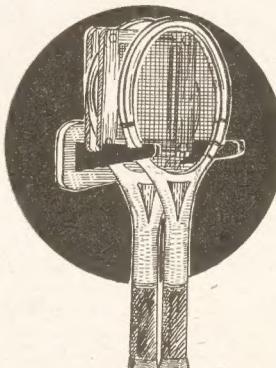
TENNIS is now a practically all-the-year-round sport although, of course, most is played in the summer months on account of the light evenings and there being less chance of half a gale blowing to deflect the ball.

For a keen tennis 'fan' who always wants his racket ready to hand instead of delving into some dark and crowded cupboard for it, the tennis racket bracket here described should prove very useful.

For Wall Fixing

As the illustration that heads this article shows, the bracket is intended for fixing on the wall, and holds two rackets. For convenience of illustration, one of the rackets is shown without any press or cover, but the other shows how the bracket is so designed to take a racket in a wooden press.

Practically any wood can be used, since if such good wood as oak is used, the bracket can be left in a natural colour, intensified with, say, wax polish,



but if such a common wood as deal is used, the job may afterwards be enamelled in bright colours.

Shaped Back

The back (Fig. 1) is first made from a piece of wood 8ins. by 4ins. by $\frac{1}{2}$ in. It is intended that the actual brackets (Fig. 2) be tenoned in, as in Fig. 3, as this

certainly makes the strongest job. It is possible to leave out the mortises and tenons and screw the brackets on with a long screw from behind, but this is not particularly recommended.

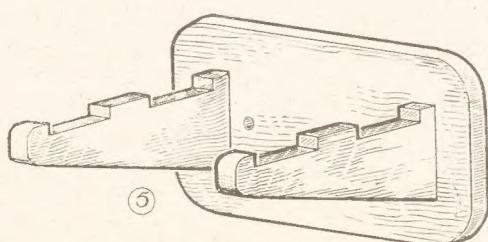
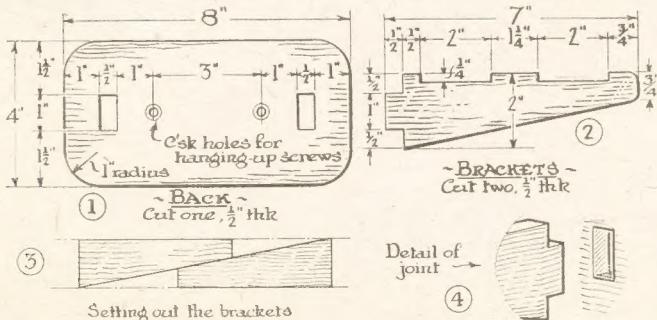
The best way to start clearing out the mortise holes is to bore two $\frac{1}{2}$ in. diameter holes right through and then clean the corners with a chisel. Whilst the brace and bit is handy, drill the holes for the hanging-up screws. These, incidentally, will be driven into the wall into which proprietary wall plugs have been fitted.

Brackets

The brackets are fully detailed and dimensioned in Fig. 2. At Fig. 3, we see an economical way of setting out the brackets to avoid waste. Naturally we have to cut a bit oversize to allow for trimming.

When the brackets have been cut, they are glued into the back, care being taken that the recesses are in line with each other. This simple job can be done in an evening, particularly if the two bracket pieces are shaped up together.

(152)



Some helpful suggestions and hints for undertaking A WALKING HOLIDAY

EACH county in Britain has its special appeal to the hiker, and many books have been written on the attractions, scenic and popular, the varied associations past and present, and the folk and their characteristics. The hiker, therefore, anxious to learn all he can of the districts he hopes to visit, should consult the many excellent guide books.

So baffling and almost bewildering by their great variety are the walks and tours available to the holiday maker strong of limb and keenly enthusiastic that it is often difficult for a beginner to decide. Provided he is not a 'mile-eater' and is out to get the most enjoyment and interest as he tramps along, he can map out tours, long and short, in any English, Welsh or Scottish county, and find both scenery and delightful associations.

Week-end Walks

You may plan a long time ahead; often it is a wise thing. At least, it is well to have one or two ideas in mind, with alternatives if necessary. Week-ends should be made the most of, and in this connection careful planning is essential. You cannot get far on a Saturday—Monday trip, and, therefore, your week-ending must be spent within comfortable reach of home.

Even so, you will doubtless discover that much of the open countryside within a radius of 20 miles is as strange to you as any far-away region. The author lives in a village set in an area of beautiful country, and for years has hiked daily round about. But he keeps finding new vistas and nooks that are as refreshing to see as the daisies in spring.

Curiously enough, with all this lovely corner of an inland county surrounding their very doors, there are inhabitants who rarely stray a mile from home, but prefer to take the local 'bus to town. What a lot they miss! Do not neglect the country round about your home, just because it is not some boosted touring district many miles away.

Selecting Your Routes

With such a vast number of attractive districts for hiking holidays, it is advisable to bear in mind the kind of country you desire to explore, and to concentrate on planning for your hikes. Holiday-time will soon be here, and you cannot get your plans made too soon.

Suppose, for instance, you wish to try your luck in mountainous country or hill ranges, you may make a list of such regions, and then finally decide on one, or more alternatives.

Such a list could include Black Mountains: Cheviot Hills: Chiltern Hills: Derbyshire Peak: Malvern Hills: Pennines: Quantock Hills: The Cotswolds; The Lake District: The Trossachs;

West Highlands: Wester Ross and Sutherland: the Cairngorms: and in Wales there are the Snowdon Range and the Berwyn Range.

Forests and Woodland Country

Again, if you wish to spend your week-ends and holidays hiking in well-wooded countryside, the undermentioned areas may give you some ideas for your planning. New Forest (Hampshire), Sherwood Forest (Notts.), Windsor Forest (Berks.), Ashdown Forest (Sussex), Epping Forest (Essex), Exmoor Forest (Devon), Charnwood Forest (Leics.), Forest of Dean (Glos.), Forest of Bowland (Lancs.), Gilderdale Forest (Cumberland), Savernake Forest (Wilts.), Radnor Forest (Radnorshire). Many areas in Scotland, as Deeside, Loch Lomondside, the Tweed Valley, and West Highlands, are magnificently timbered, despite the raids made on the trees during the wars.

Coast Walks

If you live inland, then a coastal tramp may well appeal, by its complete change. Few tramps beat the tour along the coast from Lynmouth to Ilfracombe, Devon, though the walking is not easy, the paths being narrow and often tricky. But the view of the rollers breaking at the foot of the cliffs is more than compensating.

The North Cornish coast, an area that includes Tintagel and King Arthur's Castle, will take you 'far from the madding crowd' without doubt. Switching to the opposite side of England, few walks beside the sea rival that from Tyne to Tweed, with a fine stretch of coastline with headlands, cliffs, black rocks, sand dunes, and stretches of golden sands. There are attractive old castles and many delightful old-world fishing villages, whilst the marine views over to the Farne Islands are superb.

The Yorkshire coast is also well worth touring, especially from Flamborough Head to the charming village of Staithes. Along the Sussex coast the walks are very fine, starting from Bognor and

Brightening Copper

WHEN oxidised copper finger plates and door handles get dingy, rub them first with a cloth dipped in turpentine, then rub with a cloth dipped in olive oil.

Soldering Tip

WHEN you are putting a soldering iron in the fire, put it in a brass tube to prevent it from getting dirty.

carrying on east as far as you can within the limits of your time and tramping ability. With plenty of time you may carry on right round to Kent as far as Deal or Ramsgate.

Inland Tours are so many we can only suggest a very few—including East Anglia, with the Norfolk Broads, the Suffolk villages, and the river estuaries. The home counties also provide excellent tramping grounds for those who live in London. You can enjoy lovely walks in leafy Bucks. and in Berkshire and Surrey. And what of Kent, the 'Garden of England'?

Farther afield we have the Cotswolds and Shakespeare's Country round Stratford-on-Avon—providing a tour of quiet charm and serene loveliness, with Warwick Castle as a gem of romantic history.

Shropshire, around the Wrekin and Wenlock Edge, and Mary Webb's countryside, with its hills and its charming villages nestling in their folds, is most attractive to the walker. You get hill scenery without too much strenuous work. The walks and scenes described in H. W. Timperley's book 'The Shropshire Hills', should set any reader longing to explore them.

The Wessex Country

The Wessex of Thomas Hardy is ideal tramping country, much of it immortalised by the great novelist of the Wessex novels. Dorchester or Wareham afford likely H.Q.'s from which to explore Dorsetshire.

The Wye Valley is so good that you can make the trip many times, and still long to go again. The beauties of this famous river cannot be over-praised. Then, switching right away from the Welsh border to the Midlands we think of Robin Hood's Land, which includes much of old Sherwood Forest and the Dukeries; no woodland tract has such romantic links, and traditions of Merrie outlaws.

Joys of the Forest

None may be the 'twanging bow' and 'ivory shrill', but the shades of Robin, gallant Robin, and all the Sherwood clan still haunt the forest paths. Here, too, in the old forest are ancient oaks and the famous Russian Log Hut; unhappily, much of this forest land is still closed to the public; ammunition dumps not yet cleared.

The above are merely a few suggestions to help you decide on your hiking tours this year or sometime in the future. There is also much fun and unique fascination in the 'discovery' of your native land. Hills, dales, forests, mountains, moors and fells; fenlands, lovely river valleys; old-world villages, thatched cottages, stately homes and manor houses, lakes and canals—they are all to be found in Britain. (170)

Every user of the fretsaw will find something in these NOTES OF INTEREST

INCLUDED in the large daily mail-bag we receive, are a number of standard queries which seem to arise in connection with our designs, and which cover points of general interest to all readers. For that reason, if we deal with some of them here the matter will probably be of interest to a wider range than we imagine. Those who have been reading our pages and making the various pieces of work and models, become experienced and so find all the work straightforward.

We may be apt, therefore, to overlook the beginner who has not yet had that experience, and who may find some of the matters rather a problem. One of the points particularly is in the matter of chamfering or shaping certain parts in the patterns shown on the sheet, and it surprises us how many omit to undertake this work, although it is pointed out to them on the plans.

Reasons for Chamfering

This chamfering or shaping—there are different processes—is suggested for several reasons. For instance, if you are building a base of three or four pieces of wood, the whole thing will look much more attractive if the edge of one or two of the pieces is chamfered to an angle. This reduces the apparent thickness, and gives a much lighter appearance to the whole thing.

On the other hand, the chamfer may be introduced into the inside edge of a surrounding piece to a photo frame. These photo surrounds, you will remember, overlap the actual opening in the frame, and serve to hold the actual picture and glass in place. If this overlay is left with a plain straight edge, the picture is apt to look too much sunken into the work. The chamfer all round the edge, gradually reduces the thickness and so makes the picture or photograph stand out in much greater relief.

Operating Hints

The chamfering, of course, is the straight angle which is introduced on to the edge of the wood whilst the operation of shaping produces a rounded or beaded effect mainly used for decorative purposes. Chamfering is not one of the easiest of operations, and should be done always with the wood in as large a piece as possible. If, for instance, you are doing the inside opening to a photo frame, you should undertake the chamfering part before the actual outline or shape is cut. This will provide a larger piece of wood to handle, and so reduce the likelihood of damage.

If the chamfering is done on the outside edge of a piece of wood, then one of the small fretwork planes is useful. Hold the board flat down to the table and against a suitable stop fixed in the bench. This may be a couple of screws

driven almost into the bench, but with their heads projecting just sufficiently to provide a stop for the wood when held flat.

Plane and File

The plane should never be run the extreme width of the wood if it is travelling across the grain. If you do, the far end will become broken and ragged. Work from both ends with the plane and so overcome this difficulty. You might think it easier to try and get the angle with the chisel, but this is not to be recommended.

You can use a coarse file, finishing with a smoother grade. In this case it is essential to keep the tool perfectly flat and work along the edge of the wood at the angle required. The file should be long enough to hold in both hands, and the wood can be held down to the bench with some of those light cramps like the ones which hold the ordinary work table. Keep the file at the correct

angle and gradually work across to the point required.

It is always wise to mark off the actual width of the chamfer required before you start. This angle is usually shown on the patterns, and a ruler should be used to mark a pencil line at the exact distance to which you are finishing. If the wood is thick, you can probably cut it down slightly at an angle with a small tenon saw, finishing off with the plane or file, as previously mentioned.

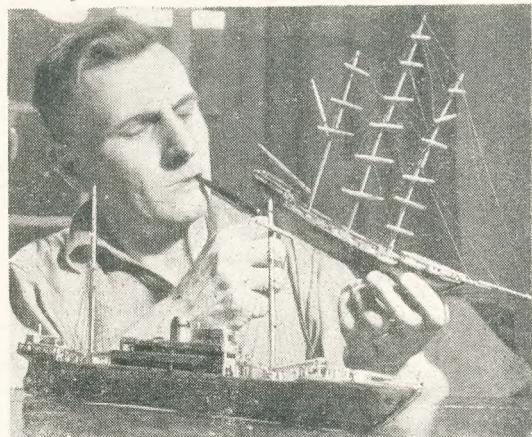
The Chamfer is Shown

It does not seem to occur to every worker that the exact degree of chamfer required is always shown by the shaded portion on the design pattern concerned. This shaded portion is an imaginary view of the thickness of the wood, and shows where the chamfer is to end, and the angle at which it is required. You see the same sort of thing where it is intended to have the edges shaped.

More Models from Matches

LOOK at these two examples of clever craftsmen who make ships with matchsticks. The two at the top were by Mr. Fred Dickens of Pill, Somerset (whom you see) and who collected 750 matchsticks for the purpose.

The lower model is being held by Mr. L. P. Underhill of Ellacombe, Devon, who used 11,000 matches in the con-



struction of the Santa Maria. It is the famous ship of which so many have been made from our design and kit (No. 2668). Mr. Underhill undertook the work as the outcome of a bet by his wife. Now the model is enshrined in a glass case also home-made. The making of ship models with matchsticks seems to be becoming popular, but we still think it an easier job from our designs and wood with the fretsaw!

Photograph by courtesy of "The Torquay Times"

In this case, the part is rounded more either on both edges of the wood, or on one edge only. Some bases, for instance, have a semi-circle edge to them, but where two or three foundation parts are concerned, it may be that the second or third upper base of the plinth is rounded on one edge only. We mean, of course, the upper edge carried all the way round the base and not just one end of the wood.

Rounded Work

This rounding can usually be done with glasspapering, but if the wood is thick, a small plane will take one or two shavings off first, or the file can be used to come roughly down to the shape needed. The finishing, however, must be done with glasspaper, completing the operation with a fine grade to leave a perfectly smooth surface. Here again, the work must be carried out with clean, sweeping movements, so that the curve of the part will be the same the whole length of the wood. In rounding end grain, the work is a little harder, but at the same time you are less likely to overrun the mark or to get a wavy surface.

Before shaping these edges, as in the case of chamfering, you should mark the exact distance to which the shape has to extend. A light pencil mark can be drawn along the wood, and this can afterwards be glasspapered off in the general cleaning up. If the shaping is carried along two or even more edges, then see that the join at the corner is true. It should be exactly the same as in a mitred joint, where the distinct angle of 45 degrees can be seen where the chamfer or shape turns the corner.

Line Cutting

Another point arises, which some readers are apt to overlook, and that is the question of the actual line of cutting. Obviously, if the pattern line is thin, and you use a coarse saw along it, then the actual size of the finished part will be smaller than intended. A fine or medium fretsaw should be used wherever possible, and observation made of whether it is advisable to cut slightly on the outside of the line, or on the line itself.

In some cases, of course, it does not matter if the part is a shade smaller, but in the case of models or similar parts which fit together and have to be dead true, then the thickness of the sawcut will make all the difference. As a general rule, it is wiser to cut so that the sawblade travels along the outer edge of the design pattern marking. The wood may be a little larger than required, but remember, you can always reduce the part, whereas you cannot increase it if cut too small in the first instance.

You can realize what a difference it would make, for instance, in the four sides of a box, if each were cut slightly larger than the others. You would never get a good fit or a satisfactory glued joint. Get into the habit of using a pair of dividers or compasses to test out the pieces as cut, or even beforehand. If one piece has been cut slightly larger,

then the similar companion piece can sometimes be cut exactly the same size without any trouble arising. The four sides of the box, to quote the same example, will then be all the same size even if a little larger—or even smaller than originally intended.

Too many readers are apt to cut parts in a hurry in order to see what the finish looks like, and how it is 'coming on'. In this hurry, they have, perhaps, cut the joint badly, or one part too small, and in consequence, double work is involved or the worker becomes tired and gives up irritably. So much can be saved by careful testing to ensure accuracy, one part with another, and to fit pieces together as the work proceeds.

Matter of Joints

This is particularly essential in work where mortise and tenon joints are used. Imagine, again, the four sides of a box which are tenoned together. You may get two of them satisfactory, only to find that the tenon on a fourth side is very slightly out of true. This means that the whole thing will either have to be cut again, or the part 'fiddled' to get it to fit. If this is done, then there will be an obvious mistake showing in the finished article—a result which will not please any really keen craftsman.

Fretsaw Grades

We have previously mentioned the question of using a suitable fretsaw, and would impress this on all workers. Fretsaw blades are now made by Hobbies Ltd. in various grades, from fine (00) to coarse (No. 6). It thus behoves all workers to use the one most suitable for the job in hand. If they are undertaking $\frac{1}{2}$ in. wood, say, for a substantial toy, then, obviously, the coarse blade is quite satisfactory, but surely it is unwise to use a similar blade for the delicate and tiny work found in some of the fretwork patterns.

It is surely worth the small amount of trouble in changing a sawblade to obtain a more satisfactory result. The coarser saws, too, make the work of cleaning longer, because they are more likely to leave a burr on the back of the wood which will, in turn, demand cleaning with glasspaper. A fine sawblade should be used for thin wood and delicate work. The ordinary medium blade—say, size 2 or 3—can be put in the frame or machine for use on most general cutting.

We cannot say too often, that bad tension of the saw is a frequent cause of the number of breakages, particularly amongst beginners. A loose-fitting saw bends backwards as you proceed through the wood, and so breaks. A saw with the correct tension—that is, quite taut—will cut its way through the wood without bending, unless, that is, the saw is forced through the material at too hard a pace, when, of course, no sawblade on earth would stand up to the strain.

The blade has to cut its way through, and will do this job quite satisfactorily providing the speed of movement is sufficient, and the pressure forcing it

through is not too great. About $\frac{1}{2}$ in. of each end of the blade should be put into the cramps, and when the tension has been made, it should be possible to 'twang' the blade like a violin string when it is plucked between finger and thumb.

This is where the better type of handframe comes in, because it obtains the tension quite easily merely by the reversing movement of the eccentric lever at the top.

Pasting Down Patterns

A point sometimes raised by readers is that as the printed instructions are on the back of the pattern sheet, it is impossible to paste the paper down of the part concerned, and still be able to refer to the constructional details. The point is that it is very seldom really necessary to paste the actual pattern down for plain shapes such as squares, rectangles, etc. They are easily marked direct through a piece of carbon paper underneath on to the wood itself.

Another Method

Another plan for this is to lay the pattern on the wood, prick a hole at angles and corners, take the paper away and link up the pin holes with a pencil line, thus forming the shape required. Here again, a test of accuracy should be made with compasses or dividers. Even with more shapely parts, a tracing can be taken and transferred to the wood by pasting the tracing paper itself down, or duplicating it on to the board. In the case of intricate fretted patterns, of course, the outline must be carefully drawn, but here again, it can be done through carbon paper either direct on to the wood, or to another piece of paper which in turn can be pasted to the board.

Fretted Parts

Wherever possible we have these fretted pieces on the pattern sheet away from the constructional matter, in order to allow the part to be pasted down if you so desire. The experienced craftsman, however, seldom cuts or uses his pattern sheet on the wood, because not only are the instructions on the back for reference, but also he needs the sheet by him to which to refer as he proceeds with the actual work of building or putting together.

Wherever possible, therefore, you should use the patterns on the sheet to mark off on to the wood, but seldom to cut out the patterns themselves to paste down. All experienced workers, and certainly professional craftsmen, keep the original 'blue print' as a guide, and would not have it damaged if they could help it.

One final point—those who have suggested the designs given with these issues being printed in black, should remember that the green which we have at present, is for their own benefit. After considerable experience and experiment, we found it the most restful for the eyes, combined with accuracy of outline and detail. You can work with it for long periods without eyestrain.

Valuable hints in hiking, cycling or camping with the CAMERA ON TOUR

ON many occasions Hobbies Weekly has hinted in these photographic articles that amateurs should encourage a genuine purpose in their hobby. The reason being that it will have the effect of rather more consideration being given in the selection of subject and arrangement of it and, also, to the exposure. Such consideration will, undoubtedly, result in better negatives and, of course, better prints. Without a purpose our work must become very haphazard and prove not only expensive but most uninteresting.

That paragraph has been specially written as a 'lead-off' to this article on Camping, Hiking and Cycling, because it is very doubtful whether any other subject would serve to illustrate the value of having a 'purpose' more than this. As the season is with us when there is the urge to get out-of-doors a few practical hints will not be out of place.

Make it a Story

Whether you are a serious worker or just a 'button pusher' most of the exposures you make are records of something you have seen or experiences which you wish to memorise and, in a way, they all serve as illustrations to something that is in the nature of a short story.

Assuming that a number of readers are Scouts or members of a hiking club

the games and sports, camp fire, church parade, picnics on the beach or in the woods, arrival of the mail, local places of interest like old buildings, and beauty spots. This group of photographs will fill up the main body of the story. For the final chapters, there will be the last breakfast and the dismantling of the main marquee and the smaller tents and again the loading of kitbags with the tramp to the station on the homeward journey.

For Entertainment

In reading those suggestions of items to be snapped it must be very clear to you what the author is driving at in asking you to have a purpose in your

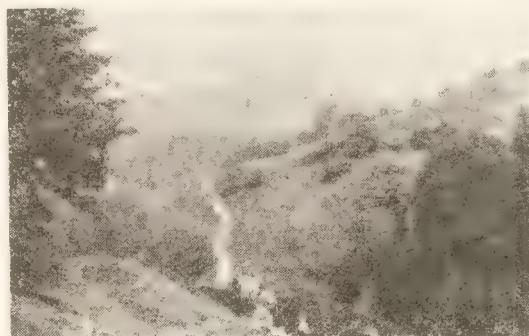
camera will be hanging on the shoulder and your eyes wandering here, there and everywhere for the best view of that old farmhouse or cottage. That pretty bit of landscape with the old parish church in the middle distance, those charming reflections in the pond or stream, or that pastoral scene with the cattle and those delightful trees.

Look Back

You must not hesitate to turn round and have a good look the other way. It is possible that the rearward look makes a much better view than that which has been facing you the last few minutes. The light is, perhaps, better or the sun in the right position for a shot.

In hiking parties there is always the possibility of too much talking with your neighbour and so losing sight of a pleasing scene or object suitable for the making of a picture. This does not mean that conversations are to be barred.

It is necessary to be friendly and join in, but do not allow such incidents to cause you to lose opportunities for making use of your other hobby. In the end you will probably be



Notice the party on the foreground path

work and how a print of each of these and similar subjects will prove not only interesting to the individual but to the whole troop. They can be used as an item one evening when parents are invited to a Scouts Entertainment.

Hiking, rambling or walking, call it what you will, is without any question one of the healthiest of all recreations, for it has a beneficial effect on both mind and body. Unfortunately it seems that a large number of trampers appear to consider it only so far as the body is concerned. Do you notice that when a question is put to a group of hikers or even to a single person as to what sort of a day they have spent, the response is 'Oh, we have done 15 or 18 miles and it has been rough going'?

Enjoyment, not Mileage

Why do these folks measure the enjoyment of their hobby by mileage? Probably if one of the group could be taken aside and encouraged to give a detailed account of the walk it might be possible to gain quite a list of interesting items that had been seen by the party. But in quite a number of instances these items can only be brought to the surface by the enquirer, who happens to have done the same journey previously, mentioning them in the form of questions.

If, however, you are hiking, surely the



For pleasant memories

the best qualified member of the party to describe the hike and its many attractions.

Cycling is another recreation that is bound up with 'mileage'. Doubtless many of your friends will sum up a good day in the country or to the seaside as a splendid day; 'we did 35 miles with wind at our back coming home and not a spot of rain all day'. Some even forget to say the name of the place to which the run was made.

Well, such an outing is not so easy for the amateur photographer as the hike. Nevertheless records of some of the interesting places on the run should be got if the enjoyment is to be memorised

Take the camera with you and keep a



A pleasing picture of a party

and are shortly leaving for a Camping Holiday. Why not get the camera ready to take one or two shots of the group preparation? Such as 'Packing the Kitbags on to the Trolley or Scout Truck', 'The Starting Off from the Hall', 'The Arrival at the Station and the Unpacking of the Truck'. Then 'The Troop arriving at the Country Station' and 'The Tramp to the Site of the Camp', 'The First Meal and The Evening Parade'. Such preliminary incidents make the foundation for a really good story or record of the holiday.

There are, obviously, plenty of other items that will be worth while taking during each day's programme. Such as

watch ahead for the subjects worth while. Obviously you cannot keep looking back, but you can anticipate a possible view and if it turns out to be a picture, then dismount and see what you can make of it. If you are on a club run there is sure to be one or two other members who will stop and enjoy the scene for a few minutes. The Captain of the run will realise why you are stopping and will, perhaps, be influenced to make a break of five or ten minutes for everyone's benefit.

Learn Some Facts

Now there is one very valuable hint which must be passed on to everyone whether camper, hiker or cyclist. You should know well beforehand where the camp is to be and what places of interest there are in the near neighbourhood. Or to what spot the hike or cycle-run is rendezvous and what places are to be passed before reaching there. If time permits go to your local library and select the guide book of the county in which the camp is to be held, or through which you will hike or cycle, and read up all you can about the particular district.

Such a course of self-instruction will more than repay you for the time spent. You will find considerably more interest and you will be surprised how much more enjoyment you can impart to your companions. To you, as a photographer, it will mean the saving of time by being able to go direct to the spots you

particularly desire to see. It will supply the historical or other interesting data for your photographic record. And what is of first importance, it will prove that you are encouraging a definite purpose in your hobby and are making good use of it in connection with your other hobbies or recreations.

Pictures of Friends

Here is a hint which should not be omitted from such a subject. Amateurs are frequently asked to take a snap of their friends when out on these excursions and there is no reason why such snaps should not be made. But do try to introduce a little originality into them.

For instance, when two cycling companions want to be taken, let one of them be pumping up a tyre and the other looking on. If they are hiking chums ask one to be pulling a map or some other object out of the rucka and the other showing signs of impatience. These sort of snaps are much more interesting than the stereotype ones of two persons staring straight into the lens, and further, they illustrate a small incident of the day.

Carriage and Protection

It would be very unwise and unkind if this article finished without giving a very strong note of warning to all camera-hikers and it very definitely applies to camera-cyclists. What means do you employ, or how do you propose to carry

the camera to protect it from dust, dirt and wet?

This matter is purposely put in the form of a question because it is one which must be answered by you as an individual and while you are actually reading the article. The majority will, undoubtedly, make the remark that your camera is quite alright, for it is always carried in a proper camera case and slung over the shoulder, so that it is resting on the back.

Well, that is good so far as it goes, but let us first consider the point about the case. Some of these are made of canvas while others are of American cloth and the posh ones of leather. The last two are much preferable to the canvas which is a very bad dust holder compared with the leather or American cloth. Dust and dirt are the two items which we amateurs most avoid whenever possible.

Leather Case Best

Although the leather case usually costs more, yet it is better made for protecting the camera. It does not lose its shape and is a better fit in every respect to either the others. Now a word about the carrying. If you are only out for a jaunt, no harm, or at any rate very little, can occur by slinging the camera over to your back.

When hiking or cycling, however, it is advisable to give a little more thought to it. If you are carrying a rucka, then try to find room for your camera in that. Place it in a position where you can easily get at it when you wish to make an exposure and, believe it or believe it not, you will be surprised how the rucka seems to shout at you to replace the camera in it again.

Many, many times when the author has been out with a party someone has forgotten their camera, but it has never been known to happen with a person carrying it in a rucka. Further, this method of carrying serves as another means of avoiding dust and prevents to a large extent the continual jolting which must occur when cycling and when it is slung loosely over the shoulder and on the back.

Treat it Carefully

If the camera is an expensive one with several gadgets, continuous shaking and jolting does not do it any good. Even with an ordinary box or folding type it is just as well to treat it kindly. You have probably seen folks walking along in conversation with a friend and, quite thoughtlessly, swinging their camera by its strap. That is not the way to use it, for it only requires one good smack against a wall or tree trunk to damage it and make it no longer light proof.

If you have a really good instrument you will be well advised never to remove the strap from your shoulders when out for a day's walk, even when having a meal or in a train. It is most surprising how many cameras are lost and, unfortunately, only a very few are recovered. Knowing that we are all at times subject to acts of forgetfulness, you can also have cameras insured against loss.



A Reader's Own Standard Lamp

THESE pages are always full of interesting things to make and do, but they also provide thought for ingenious people to fit such suggestions to their own needs and materials. Even if they cannot carry out the work as shown, they find ideas for fitting up their own 'bits and pieces' to form some practical and useful object, of which they can proudly say 'I made that!' Here is a case in point as sent in by Sydney W. Sanders of King's Rd., Bury St. Edmunds. He sends us the picture and writes 'Some weeks ago I saw an illustration in *Hobbies Weekly* of a Standard Lamp which had been partly constructed from empty cotton reels. That gave me an idea, and as I possessed a number of empty reels, I decided to 'have a go'. You will see by the photograph that for the base I have adopted an original idea. For the top table I used a bread-board. The lower table cunningly conceals a heavy weight, which admirably affords the necessary balance. I am the proud possessor of an Al machine, which has been most useful to me on numerous occasions'. Our congratulations to Mr. Sanders, not only for the excellent piece of craftsmanship, but for the ingenuity which led to its completion. Definitely an idea which other readers may like to copy.

For Fêtes or Garden Parties do the best with your EXHIBITION STANDS

MOST model-makers and hobby enthusiasts find themselves involved or taking part in some form of function during the outdoor season.

If you are taking part, then have an understanding with the promoters so you can provide your own stand and dress it your way. Some of these suggestions will also be most helpful when you have a bazaar or exhibition.

Nothing looks more disjointed than to see the legs of the table or the trestles showing underneath. Cover them up. We cannot expect curtains but we can paste together some sheets of brown or other coloured wrapping paper. Even if it has been used it will not matter.

It will go right round (see Fig. 1) and

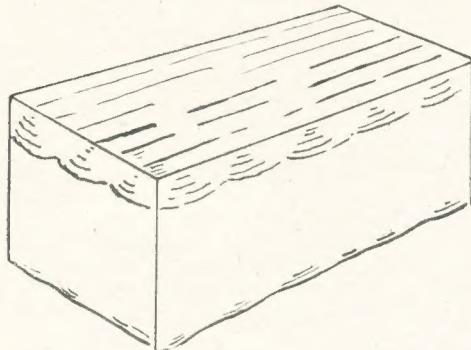


Fig. 1—Drape round the sides of your table

you can store your boxes and hide up the 'works' if you have something moving. Having fixed this, purchase some sheets of crepe paper. This is now most plentiful in a range of over 25 shades. It costs round about a 1/- for 12ft. 20ins. wide. For a model stand choose something in fawn or beige. Other shades will detract from the display. Vandyke brown would be a good shade with fawn or sand shade on the table.

Sometimes you may use trestles tables and at others ordinary domestic tables. Both are good foundations and you can completely disguise them with a little imagination. Having covered in the space below the table, you can hang exhibits suited to this position from the table edge. They will look much better with the backing.

Probably you will find that you have too many exhibits and not sufficient

room. You can overcome this by putting two tables together, as shown. You will then be able to make a fancy canopy for the stand by lashing together some ordinary garden canes to bend over from corner to corner and fixing at the centre (see Fig. 2).

These canes can be covered with strips of brown crepe paper 3ins. wide. You can then arrange a shelf along the back fixing to the struts and thus giving you ample space. Keep the large items at the back. This arrangement will also allow you to suspend some smaller lines.

In Fig. 3 you will see a very useful stand made from a trestle table which is most attractive and will allow you

table with the cloth over it affair which is always so common. The framework is covered in 3ins. wide crepe paper and if you wish some cut-out birds from the hobby range will give a very charming finish. Use care in taking the stall to pieces so you can keep all the materials for another time.

If you are running the toy stall at some local function or other—here is your chance to shine in some up-to-date display work. Try and get the best and strongest table available and dress it round the base as suggested already. Fix two uprights to a height of 5½ ft. from the front corners. Two more will be required at the back and up to 6ft.

Now connect up with a cross batten at back and front and two on the sides as shown at Fig. 4. Two sloping battens will then finish off this simple arrangement.

This will, as you note give far more space for display than the ordinary flat table. Cover the uprights with green crepe paper in strips and also the crossbars. The top is covered with strips of

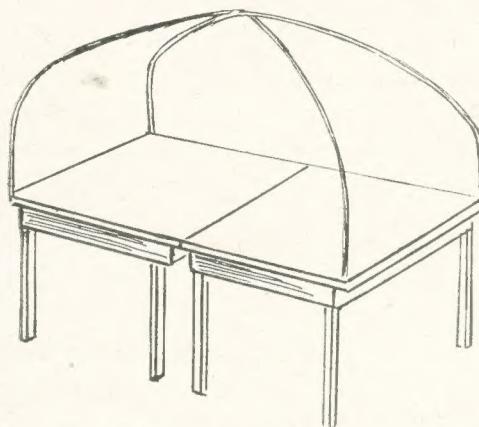


Fig. 2—Two tables close with a canopy top

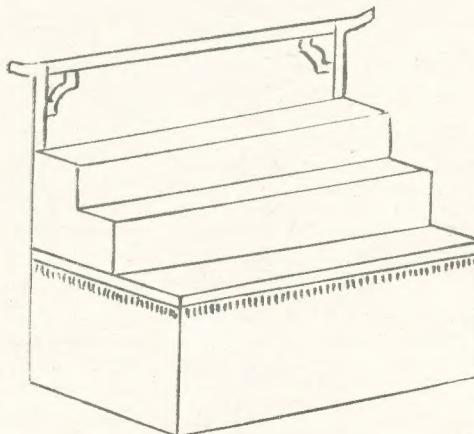


Fig. 3—A suitable three-tier effect

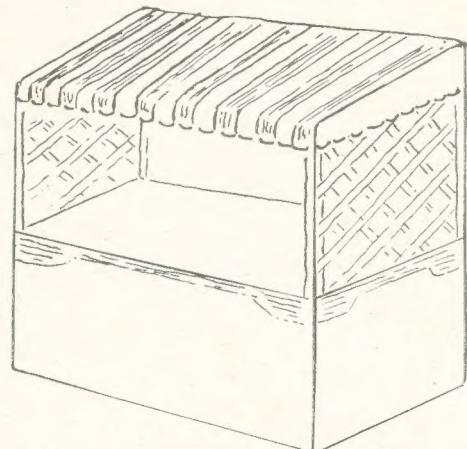


Fig. 3—An attractive stand with lattice ends

to build up your display on two tiers of cardboard boxes or planks of wood. Failing this, if you are near a school you can do it with the low forms. From the decorated overhead section you will be able to arrange Club Notices or other articles of interest.

The design and structure generally will be much admired and certainly bring you more supporters than the

alternating white and red paper about 6ins. wide and extending 3ins. over the front and cut in scallops. The side is finished to match.

The lattice effect is made by using fawn or beige crepe in 3in. strips and turned inwards to make like a bar. This is then fitted criss-cross as shown. Do not forget plenty of balloons to brighten it up.

(197)

BOYS! Send for our super price Catalogue of tricks, jokes and novelties. Terrific selection. The best jokes of the century. Cig-bangs, plate lifters, itching powder, etc. S.A.E. to—Chung Lee's Magic Shop, 61 Wellfield Road, Streatham, S.W.16.

FREE—stamps catalogued 5/- to applicants for 1d. approvals.—Cox, 17 Stoneleigh Park Road, Ewell.

TRICKS for boys. Cut and restored rope, 1/3; Window mystery, 1/3; Eastern papers, 1/3; Blondin ball, 2/-; It's off, 1/9. Free trick to everyone spending 5/-—Magician's Den, 644 Wimborne Road, Bournemouth.

STAMPS. World mixed. 1/- a 100, 5/- a 1,000. Gift voucher free.—Selby, 66 Donnington Road, London, N.W.10.

STAMPS. 250 different, 2/6; 500 different, 5/-; 1,000 different, 12/6.—Thomson, 46 Beil Drive, Glasgow, W.3.

A MINIMUM of £5 per week can be earned, running a postal stamp business. Details, 2½d.—Philatelist, 17 Springfield Avenue, Padgate, Warrington.

BE Taller. Quickly! Safely! Privately! No appliances—no tablets—no dieting. Details, 6d. stamp.—Malcolm Ross, Height Specialist, BCM/HYTE, London, W.C.1.

MODELS. You can make lasting stone-hard models with Sankey's Pyruma Plastic Cement. Supplied in tins by Ironmongers, Hardwaremen and Builders' Merchants. Ask for instruction leaflet.

TRANSFERS for decorating toys, List trays, furniture, fancy goods. List and samples free. Flowers, pixies, dogs, nursery rhymes.—H. Axon Harrison, Jersey.

LEARN Shorthand by July 21st (1 hour's study nightly). 1st lesson, 2½d. stamp.—Duttons (Dept. HB), 92 Gt. Russell St., London, W.C.1.

RUBBER Tyred Metal Disc Wheels finished in red, green or blue enamel. 2ins., 2/6; 3ins., 3/- per set of four. Post paid. Other sizes available up to 9ins.—The Joyden Toy Co., 193 Chase Side, London, N.14.

DOLL'S House fittings and papers; send S.A.E. for list. Doll's House plan special. Send 2/6. Trade supplied.—Zimplan, 88 Ware Road, Hoddesdon.

CONSTRUCTIONAL Kits, 4mm. and 7mm. scale Lorries. Also large range spare parts from which to build to your own design. Price lists, 1d.—Wilson's Lorries Ltd., Dept. H., 1/6 Gt. Winchester Street, London, E.C.2.

LONELY? Then write Secretary L.U.C.C. 5B.B. Hay St., Braughing, Herts. Genuine. Est. 1905.

WHEELS for Toys, and other accessories. Full lists will be sent on application to The Joyden Toy Co., 193 Chase Side, London, N.14.

PERSONS required, make fancy goods at home. Write for details.—Melton Manufacturing Co., Southgate Street, Leicester.

100,000 Government surplus bargains. 1in. insulation tape, ex. R.A.F.; really adhesive, 10yds., 9d., post 3d. 50yds., 2/6, post 6d. Giant balloons (inflate to 3ft. 6ins.) in sealed tins, 5/-, post 9d. Metal ammunition boxes with lid, 12ins.×7ins.×6ins., 1/6, post 9d. Strong steel boxes (made by Roneo), 15ins.×10½ins.×10ins., ideal tools, deeds, etc., 8/6, post 1/6. Huge stocks other boxes, switches, rivets, rubber oddments, etc. Send 3d. stamp and S.A.E. for illustrated list of bargains.—Milligan, 24 Harford Street, Liverpool, 3.

PLYWOOD offcuts. Birch and Gaboon in various thicknesses. Handy sized parcels for the cabinet, toy, model maker, and all handicrafts. Parcels made up in £1 and 10/- lots. Carriage paid. Send P.O. to Reeves, Plywood and Timber Merchant, 33 Front Street, Monkseaton, Whitley Bay. Tel. W.B.4677.

BLUSHING, shyness, nerves, self-consciousness, fears, ended. Details under plain cover, 1d.—Stebbing Treatment, 28 (HB) Dean Road, London, N.W.2.

FASCINATING and profitable hobby, casting ornaments, toys, etc. You can easily make these yourself. Paints, brushes, and all accessories. Illustrated catalogue of 700 Moulds, plus latest list of Rubber Moulds, with instructions, 9d. post free.—Cock of North Moulds (H), 140 Hollings Road, Bradford.

AMERICAN Magazines post free for A1 year. Popular Mechanics, 32/-; Popular Science, 28/6; Mechanix Illustrated, 22/6; Popular Homecraft, 18/-. Stamp for full list of others.—Willen Ltd. (Dept. 57), 101 Fleet Street, London, E.C.4.

ENTER the Juneero National Model Making Competition. Cash and kit prizes to the value of £150. Send now for details or see the Juneero Annual, 1/- from all Juneero Dealers or 1/2 post free from Juneero Ltd., Boreham Wood, Herts.

IMMEDIATE delivery New Finnish Birch plywood, white in colour, sanded both sides, 54×11×1in., 4 for 20/8; Birch Ply veneered, 27×19×1½in., 6 for 33/-; unveneered, 7 for 20/-; 20×20×1½in. veneered Oak, 7 for 29/9; unveneered, 9 for 20/-. B.C. Pine ply, 24×16×1in. veneered Oak, 4 for 20/-. 23×15×1½in., unveneered, 7 for 21/-. Jigsaw Puzzles, 8½×6½ on plywood uncut, 6 for 3/-. List of small-priced offcuts for the small user (2d.). Bumper list of 36 other offcut sizes (2d.). All the above carry paid C.W.O. Dept. H3/JDD. Storage, 71 Northcross Road, East Dulwich, S.E.22.

BE Taller in 14 days or money back. Details, 1d.—Stebbing System, 28 (HB) Dean Road, London, N.W.2.

STAMPS free—Empire packet including pictorials and Victorians free to approval applicants.—Robert J. Peck, 7A Kemp Road, Bournemouth, Hants.

PRIME imported recessed hardwood wheels, 2½ins. diameter, 3/- dozen, 14/- half gross, 26/6 gross. Post free. Pressed metal, hardwood and metal disc wheels, doll's house windows, doors, papers. Catalogues, 6d.—Jasons, 135 Nags Head Road, Ponders End, Middlesex.

£5 to £20 weekly earned at home, running your own Mail Order business. Details, 1d.—Stebbing Publications Ltd., (HB) Naphill, High Wycombe.

KALEIDOSCOPES. Fascinating novelty for all ages! Ingenious optical creation of ever-changing colour designs. Endless variety. 2/6 post free.—'Stymit', Dept. H., 1/6 Gt. Winchester St., London, E.C.2.

COLLECTORS' delight—my world-famous Oxford approvals. Generous discount and free packet with each selection. Postage please.—Frank Kennedy, 37 Juxon Street, Oxford.

HOME watch and clock repair outfit. Includes watchmaker's eyeglass, tweezers, screwdrivers, oilers, brush, oil, plus explanatory booklet fully illustrated. In container. Skill unnecessary. Invaluable for all fine work. 12/9 inclusive.—D. Bolster (Dept. A.), 5A Station Parade, Ashford, Middx.

HOMEWORKERS required, either sex, light assembly, part or full time. S.A.E.—Esprey, Box 18, 41 Wade Street, Lichfield.

CONJURING. 3d. for new lists and free magical competition.—De Hempsey, 363 Sandycombe, Kew Gardens.

SURPLUS Goods—7in. plane, 6in. set square and spokeshave. All guaranteed. 15/- the three, postage 1/6.—Young, 49 Bath Road, Wolverhampton.

GREGG Shorthand. Rapid postal courses, sample lesson free.—Shaw's Commercial School, Lancaster.

PERSPEX Flat Sheets, clear and 17 colours, cut to shape. Asbestos roofing. Corrugated Perspex rooflights. Aluminium sheeting, Mouldings. Plastic Panelling, Gates.—Henry Moat & Son Ltd., Atom Works, Newcastle, 1.

THE Model Railway Encyclopedia by E. F. Carter. Absolutely the last word on every phase of railway modelling. 496 pages, 461 diagrams, 128 photographs, 24 blueprints of modern locomotives. 15/9 post paid.—Quadrant Books (Dept. 4), 17 Quadrant Arcade, Regent Street, London, W.1.

SART yourself, pleasant and profitable occupation (whole or spare time) making fancy leather and felt goods. For particulars and rates write Grange Co., 4 Taylor Street, Leicester.

GLASS Cutters. The 'Karbon' Tungsten Carbide Cutter for glass and glazed tiles. Outlasts 50 steel wheels. Limited home market supplies available at 3/3 post paid or C.O.D. extra.—Euco Tools Ltd. (Dept. A.), 44 London Road, Kingston-on-Thames.



Good photographers
use **Johnson** goods
CHEMICALS • EQUIPMENT • ACCESSORIES

Two Grand Developers

AZOL.

A concentrated one-solution developer. Only needs dilution with water. Always ready for use. Best for developing film or plate negatives. No developer can be more economical.

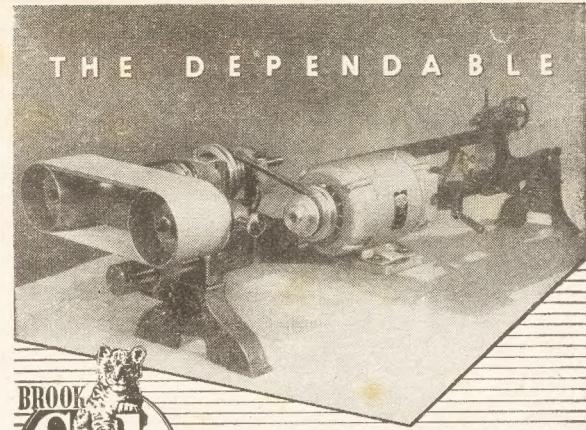
7-oz. bottle 4/-
17½-oz. .. 9/9

All photographic dealers sell Johnson developers.

JOHNSONS OF HENDON LTD., LONDON, N.W.4.

UNIVERSAL.

This M.Q. developer is recommended for printmaking on any gaslight or bromide papers. Produces a rich, bright picture with clean margins. Can be used also to develop roll films.
8-oz. bottle 2/6
20-oz. .. 4/-



"FRACTIONAL"

The Coronet Tool Company of Derby, makers of the lathe shown in our illustration, fit Brook 'Cub' Motors

A sound machine with a reliable driving unit—The one motor is easily interchangeable for driving the lathe and all its attachments.



EMPEROR WORKS HUDDERSFIELD
I.H.M.148

DEVELOP SELF-CONFIDENCE Learn to DANCE



You can master all the popular modern ballroom dances with the Morley Course in Ballroom Dancing or money back. No experience, no music, no teacher or partner necessary—the fine illustrations tell you everything. In a few days you are dancing with confidence. G.B., Buxton writes: 'I can dance as well if not better than anyone in the dance hall I visit twice a week'. Keep fit—have fun—get self-confidence—be popular. Complete Course only 10/- (\$1.50), Air Mail, 14/-. Descriptive brochure, 1d. sent under plain cover.

JOHN D. MORLEY (Dancing) (HB/8),
Terry House, Naphill, High Wycombe.
(Established 1936)

STOP SMOKING

You can overcome the smoking habit in 3 days with the Stebbing Anti-Smoking treatment—or money back. Safe, pleasant, permanent. No Will Power necessary. The ONLY scientific method. Improve your health and save pounds. J. Conroy (Tipperary) writes: 'I stopped smoking in 2½ days. I've better health now'. E.F. writes: 'I had been an habitual smoker for 19 years. It is 19 days since I had a cigarette and I certainly shan't start again now'. T.R.: 'I have no longer the wish to smoke and feel 100 per cent better in health'. Not a physical culture course. Amazing results. Complete Course, 6/- (or \$1.00 bill). Details, 1d. Sent under plain cover.

STEBBINGS, 28 (HB/8), Dean Road, LONDON, N.W.2.
Established 1928

YOU CAN BECOME A HANDICRAFTS INSTRUCTOR

Experience not essential

Men who enjoy making things in wood or metal can turn their hobby into a well-paid, permanent and interesting Career. Short hours, long holidays, and security in a job you would really enjoy, can be yours if you become a Handicrafts Instructor. Let us send details of the easiest and quickest way to get the necessary qualification.

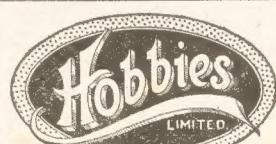
We definitely guarantee
"NO PASS—NO FEE"

If you would like to know about our unique method of preparing you for one of these excellent appointments, write today, and we will send you our informative 175-page Handbook—free and without obligation. Mark your letters "Handicrafts Instructor".

BRITISH INSTITUTE OF
ENGINEERING TECHNOLOGY

595 Shakespeare House
Stratford Place, London, W.1

BIET



BRANCHES LONDON

78a New Oxford St., W.C.1
(Phone MUSEum 2975)
87 Old Broad Street, E.C.2
(LONDON Wall 4375)
117 Walworth Road, S.E.17

GLASGOW

326 Argyle Street
(Phone CENTral 5042)

MANCHESTER
10 Piccadilly
(Phone CENTRAL 1787)

BIRMINGHAM

14 Bull Ring

SHEFFIELD
4 St. Paul's Parade

LEEDS

10 Queen Victoria Street
(Phone 28639)

HULL

10 Paragon Square

SOUTHAMPTON
25 Bernard Street

BRISTOL

30 Narrow Wine Street
(Phone 23744)

Head Office & Factories—HOBBIES LTD., DEREHAM, NORFOLK

THE STEPPING STONES TO SUCCESS!

Don't hesitate about your future! Go forward, confident that The Bennett College will see you through to a sound

position in any career you choose. The Bennett College methods are individual. There's a friendly personal touch that encourages quick progress and makes for early efficiency. Take the first important step NOW and fill in the coupon below.



**CHOOSE
YOUR CAREER**

Accountancy Exams.	General Education	Road Making and
Aviation (Engineer-	G.P.O. Eng. Dept.	Maintenance
ing and Wireless)	Heating and Ventil-	Salesmanship
Book keeping.	Accountancy,	Sanitation
Ac-	and Institute of Housing	School Attendance
counctancy,	Modern Business	Officer
Methods	Institute of Municipal	Secretarial Exams.
Building, Architec-	Engineers	Sheet Metal Work
ture, and Clerk of	Mathematics	Shipbuilding
Works (A.R.I.B.A.	Matriculation	Shorthand
Exams.)	Metallurgy	(Pitman's)
Cambridge Senior	Miners, All Subjects	Short Story Writing
School Certificate	Motor Engineering	Surveying
Carpentry and	Naval Architecture	(R.I.C.S. Exams.)
Joinery	Novel Writing	Teachers of Handi-
Chemistry	Plastics	crafts
Civil Engineering	Play Writing	Telecommuni-
Civil Service	Police, Special	cations (City and
All Commercial	Course	Guilds)
Subjects	Press Tool Work	Television
Commercial Art	Pumps and Pumping	Transport Inst.
Common Prelim.	Machinery	Examinations
E.J.E.B.	Quantity Surveying	Viewers, Gaugers,
Draughtsmanship.	—Inst. of Quantity	Inspectors
All Branches	Surveyors' Exams.	Weights and Mea-
Engineering.	Surveyors' Exams.	sures Inspectors
All Branches, Sub-	Radio Service En-	Wireless Telegraphy
jects and Exams.	gineering	and Telephony

If you do not see your requirements above, write to us on any subject. Full particulars free.

COUPON. CUT THIS OUT

IF YOU ATTEND TO THIS NOW
IT MAY MAKE A WONDERFUL
DIFFERENCE TO YOUR FUTURE.

TO DEPT. 62

THE BENNETT COLLEGE LTD.
SHEFFIELD, ENGLAND.

Please send me (free of charge)

Particulars of.....

(Cross out line
which does not
apply.)

Your private advice

about

PLEASE WRITE IN BLOCK LETTERS

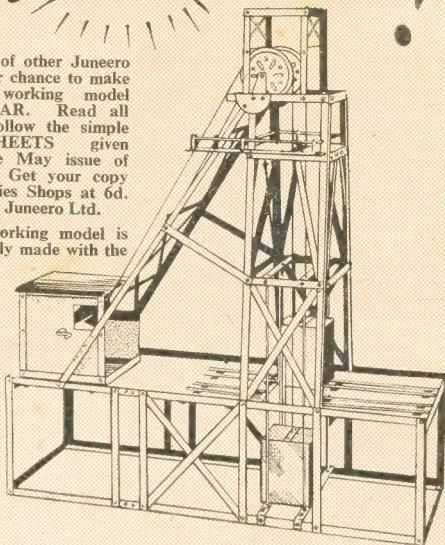
Name

Address

Boys' BIG Chance!

Like thousands of other Juneero Fans here's your chance to make this colossal working model PITHEAD GEAR. Read all about it and follow the simple DESIGN SHEETS given FREE with the May issue of Juneero news. Get your copy now from Hobbies Shops at 6d. or post free from Juneero Ltd.

This exciting working model is easily and cheaply made with the famous Juneero constructional tool, gauge bar and accessories—obtainable at Hobbies Shops everywhere. If any difficulty write to us—



Don't forget the Juneero Annual containing FREE Design Sheets for working model Bulldozer. 1/- from Hobbies shops or 1/2 post free from Juneero Ltd.

JUNEEERO LTD. STIRLING CORNER-BOREHAM WOOD-HERTS



**The bristles
won't
come out!**

Harris

the paint brush with a name to its handle



There are 3 grades of Harris Brushes. "Junior" good. "Standard" better. "Super" best.

L. G. HARRIS & COMPANY LIMITED, STOKE PRIOR, WORCESTERSHIRE

CRC23